AMENDMENTS TO THE CLAIMS

Please cancel claims 1-7, 15, and 16 without prejudice. Please accept new claims 19-30 and amended claims 8, 10, 12-14, 17 and 18 as follows:

1-7. (Cancelled)

8. (Currently Amended) An apparatus for augmented reality guided instrument positioning, comprising:

a graphics ~~proximity marker~~ guide generator for generating ~~at least one graphics proximity marker that indicates a proximity of a predetermined portion of an instrument to a target~~ a first graphic target depth marker indicating a first target depth of a hidden target, and a graphic instrument depth marker indicating a depth of an instrument; and

a rendering ~~device~~ module for rendering ~~the at least one graphics proximity marker~~ a virtual view of the first graphic target depth marker overlaid on an actual view of an object including the target, and rendering a virtual view of the graphic instrument depth marker overlaid on the actual view such that ~~the~~ a proximity of ~~the~~ a predetermined portion of the instrument to the target is ascertainable based on a position of ~~a marker on the instrument~~ the graphic instrument depth marker with respect to the ~~at least one graphics proximity marker~~ first graphic target depth marker.

9. (Original) The apparatus according to claim 8, wherein said graphics proximity marker generator determines an optimal location for the predetermined portion of the instrument

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with respect to the target, and calculates the proximity of the predetermined portion of the instrument to the target based on the optimal location.

10. (Currently Amended) The apparatus according to claim 8, wherein the ~~proximity comprises a range of proximity, and said~~ graphics ~~proximity marker~~ guide generator determines ~~an optimal range of locations for the predetermined portion of the instrument with respect to the target, and calculates the range of proximity of the predetermined portion of the instrument to the target based on the optimal range~~ a second graphic target depth marker indicating a second target depth of the target, rendered as a virtual view overlaid on the actual view by the rendering module, wherein a distance between the virtual view of the first graphic target depth marker and the virtual view of the second graphic target depth marker is a predetermined target depth range of the target.

11. (Original) The apparatus according to claim 8, wherein the proximity corresponds to a final forward position of the predetermined portion of the instrument with respect to the target.

12. (Currently Amended) The apparatus according to claim 8, wherein the ~~proximity comprises a first measure of proximity for~~ graphics guide generator generates a third graphic target depth marker, rendered as a virtual view overlaid on the actual view by the rendering module indicating an outer surface of ~~a~~ the target ~~volume, and a second measure of proximity for indicating~~ wherein the virtual view of the first graphic target depth marker indicates an inner portion of the target ~~volume~~.

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13. (Currently Amended) The apparatus according to claim 8, wherein the proximity comprises a first measure of proximity for indicating a front portion of ~~a~~ the target ~~volume~~ and a second measure of proximity for indicating a back portion of the target ~~volume~~, the front portion corresponding to entering the target ~~volume~~ and the back portion corresponding to exiting the target ~~volume~~.

14. (Currently Amended) The apparatus according to claim 8, ~~further comprising:~~

a wherein the graphic ~~path marker~~ guide generator ~~for determining~~ determines at least one graphics path marker that identifies at least one path for the instrument to the target,

wherein said rendering ~~device~~ module renders a virtual view of the at least one graphics path marker as an overlay on the actual view to which a portion of the instrument visible in the actual view is alignable ~~such that the at least one path is identified by the at least one graphics path marker~~.

15-16. (Cancelled)

17. (Currently Amended) The apparatus according to claim 8, further comprising:

a graphic ~~path marker~~ guide generator for determining at least one graphics path marker that identifies a path to the target,

wherein the graphics ~~proximity~~ path marker is a shape comprising a window, wherein the window marks the path.

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18. (Currently Amended) The apparatus according to claim 8, further comprising:

a graphic ~~path marker~~ guide generator for determining at least one graphics path marker that identifies a path to the target,

wherein the graphics ~~proximity~~ path marker is a pattern of lines centered on the target, wherein at least two lines are spaced differently from at least one other line, wherein the at least two lines frame the path.

19. (New) A method for augmented reality guided instrument positioning, comprising the steps of:

rendering a virtual view of a first graphic target depth marker indicating a first target depth of a hidden target overlaid on an actual view of an object including the target; and

rendering a virtual view of a graphic instrument depth marker indicating a depth of an instrument overlaid on the actual view such that a proximity of a predetermined portion of the instrument to the target is ascertainable based on a position of the graphic instrument depth marker with respect to the first graphic target depth marker.

20. (New) The method according to claim 19, further comprising rendering a virtual view of a second graphic target depth marker indicating a second target depth of the target overlaid on the actual view, wherein a distance between the virtual view of the first graphic target depth marker and the virtual view of the second graphic target depth marker is a predetermined target depth range of the target.

21. (New) The method according to claim 19, further comprising rendering a virtual view of a third graphic target depth marker indicating a first surface of the target, wherein the virtual view of the first graphic target depth marker indicates a second surface of the target.

22. (New) The method according to claim 19, further comprising rendering a virtual graphic path marker to which a portion of the instrument visible in the actual view is alignable, the virtual graphic path marker indicating a path to the target.

23. (New) A method for augmented reality guided instrument positioning, comprising the steps of:

rendering a virtual view of a first graphic target depth marker indicating a first target depth of a hidden target overlaid on an actual view of an object including the target; and

providing an instrument depth marker visible in the actual view such that a proximity of a predetermined portion of the instrument to the target is ascertainable based on a distance between the first graphic target depth marker and the instrument depth marker.

24. (New) The method according to claim 23, further comprising rendering a virtual view of a second graphic target depth marker indicating a second target depth of the target overlaid on the actual view, wherein a distance between the virtual view of the first

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graphic target depth marker and the virtual view of the second graphic target depth

marker is a predetermined target depth range.

25. (New) The method according to claim 23, further comprising rendering a virtual view

of a third graphic target depth marker indicating a first surface of the target, wherein the

virtual view of the first graphic target depth marker indicates a second surface of the

target.

26. (New) The method according to claim 23, further comprising rendering a virtual

graphic path marker to which a portion of the instrument visible in the actual view is

alignable, the virtual graphic path marker indicating a path to the target at the target

depth.

27. (New) An apparatus for augmented reality guided instrument positioning, comprising:

a graphics guide generator for generating a first graphic target depth marker

indicating a first target depth of a hidden target; and

a rendering module for rendering a virtual view of the first graphic target depth

marker overlaid on an actual view of an object including the target, wherein the actual

view includes an instrument depth marker indicating a depth of an instrument relative to

the virtual view of the first graphic target depth marker overlaid on the actual view.

28. (New) The apparatus according to claim 27, wherein the graphics guide generator

determines a second graphic target depth marker indicating a second target depth of the

target, rendered as a virtual view overlaid on the actual view by the rendering module, wherein a distance between the virtual view of the first graphic target depth marker and the virtual view of the second graphic target depth marker is a predetermined target depth range.

29. (New) The apparatus according to claim 27, wherein the graphics guide generator generates a third graphic target depth marker, rendered as a virtual view overlaid on the actual view by the rendering module indicating an outer surface of the target, wherein the virtual view of the first graphic target depth marker indicates an inner portion of the target.

30. (New) The apparatus according to claim 27, wherein the graphics guide generator determines a graphic path marker indicating a path for the instrument to the target, wherein the rendering module renders a virtual view of the graphic path marker as an overlay on the actual view to which a portion of the instrument visible in the actual view is alignable.